ANALYSIS OF THE INFLUENCE OF GOVERNMENT INVESTMENT, GROSS DOMESTIC PRODUCT, REAL INTEREST RATES, AND THE GOVERNMENT'S POLICY OF INVESTMENT TO PRIVATE INVESTMENT REALIZATION IN INDONESIA FROM 1972 TO 2005

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ABSTRACT

This study tests the joint effects of Government Investment, Gross Domestic Product (GDP), Real Interest Rates, and Government's Policy on realization of private investment in Indonesia from 1972 until 2005. Government investment, the level of GDP and real interest rate directly have causality relationship with private investment, meaning every change in government investment, the level of GDP and real interest rate will cause positive change to private investment. On the other hand, the level of real interest rate does not have significant effect on investment, meaning the level of interest rate is not the only main cause, there are some other factors such as: inefficient institution condition which can be seen from complexity of rules, legal compliance system, and political stability.

Keywords: *investment, government investment, private investment.*

1. INTRODUCTION

Economic growth is essential and needed because without it there is no improvement in prosperity, job opportunity, productivity, and income distribution. Economic growth is also needed to prepare economy to the next progress. Indicator of economic growth is GDP explained by the differences between certain GDP with previous year GDP. GDP is goods value and service produced in a country at a certain year using production factors either residents' belonging or non-residents' belonging residing in the country. GDP can be measured either according market price or current price and fixed price or constant price.

GDP growth in national level and GDP in regional level are important to reduction poverty, unemployment, and increase residents' income. Thus, many policies and developments to improve GDP growth and or GDP growth including economic growth indicators, economic structure become more productive, job opportunities expansion, improving income per capita, and enhancement of development distribution become important and has strategic value for Indonesia revival after stricken by many prolonged crisis.

While for emerging market, including ASEAN-4 groups, the highest world growth estimate in 2004 happened in Malaysia for 6,5 %, while for Thailand, Philippines and Indonesia is estimated to reach 6,2;5,2 and 4,6 percent. This explanation can be seen in Table 1.1

From the Table 1.1, it can be seen that Indonesia economic growth estimate in 2004 is still the lowest compared to neighboring countries. It's not different as in 2003.

In that context, one of economic factors can leverage GDP growth or RGDP in a region and shows responsive economic policies to dynamic economic development is investment. Economy is developed when the total of goods production output and service availability in a certain year is higher than previous year's. In order to economy can be developed, stock market must be added. Additional capital good stock can be done through investment. Investment invested is hoped to improve output and input demand so it can affect revenue increase and expansion of job opportunities which finally can boost economic growth. Creating investment in a country is essential to reach society prosperity. However, investment cannot happen by itself. Investment, especially private sector can only happen if investors feel secure to invest their capital in another word investors will invest in a country if the condition of investment in the country is conducive.

Table 1.1
Economic Indicator Several countries in the World

Country	Real GDP (%)		Inflation Rate		On going transaction	
	2003	2004	2003	2004	2003	2004
Advanced Economic	**2,1**	**3,6**	**1,8**	**2,1**	**-0,8**	**-0,8**
USA	3,0	4,3	2,3	3,0	-4,8	-5,4
Euro Area	0,5	2,2	2,1	2,1	0,3	0,8
Japan	2,5	4,4	-0,2	-0,2	3,2	3,4
NIES	**3,0**	**5,5**	**1,4**	**2,4**	**7,6**	**6,8**
Hongkong	3,2	7,5	-2,6	-	10,7	10,0
Korea	3,1	4,6	3,5	3,8	2,0	3,1
Singapore	1,1	8,8	0,5	1,8	30,9	25,7
Taiwan	3,3	5,6	-0,3	1,1	10,2	6,9
Emerging Asia	**7,2**	**7,3**	**2,5**	**4,3**	**4,4**	**3,6**
Indonesia	4,5	4,8	6,8	6,5	3,5	2,9
Malaysia	5,3	6,5	1,1	2,2	12,9	12,4
Philippine	4,7	5,2	3,0	5,4	4,9	2,8
Thailand	6,8	6,2	1,8	2,7	5,6	3,8
China	9,1	9,0	1,2	4,0	3,2	2,4

Source: World Economic Outlook September 2004 – IMF

Effort to increase investment become important and urgent because reality shows that capital investment especially foreign investment in Indonesia decreases. As written on newspaper, Indonesia Business (Monday, June 12, 2006), Indonesia position is faced to bad impression of International world. Reports from international institution stated Indonesia is not a good place to invest. The image can decrease investment in Indonesia. The decline of investment in Indonesia can be seen in World Economic Forum report which declared that in 1999 investment competitiveness in Indonesia is at the 37th rank, and then became 44th in 2000. In 2001, Indonesia rank dropped to 49th and dropped again to 69th and in 2002 until 2003 dropped again to 72nd. As a comparison in ASEAN level, Indonesia competitiveness kept going down under Vietnam's which was at 60th in 2003 and 56th in 2002 and Philippines at 66th in 2003 and 62nd in 2002. Indonesia position dropped from 69th in 2004 became 74th in 2005. In improving investment condition, there is no significant effort. In foreign perspective, business condition in Indonesia in 2005 was getting bad. This can be seen from Public Institution Index of Indonesia which fallen sharply from 68th to 89th in 2005. Three main complains from investors are inefficient government, inadequate infrastructure and complicated taxation regulation.

Exemption of tax income between 2-15 years has already given by ASEAN countries (Malaysia, 5-15 years; Singapore, 5-10 years; Thailand, 5-8 years; Philippine,0-8 years; Brunei, 2-5 years and China, 2-5 years), while Indonesia since 1984 has not been giving such policy. Exemption or reducing of tax income has also been given to the investors conducting research and development just like in Singapore and Malaysia (Tang, 1993, p 161). This easiness has stimulated investors to invest their capital in the countries.

Compared to countries within East Asia and Asia Pacific, only Indonesia which has negative Direct Foreign Investment (DFI). As a picture, in 2003 net DFI flow in Indonesia was still negative (US$ 597 million). Besides that, DFI contribution to Gross Fixed Capital Formation (GFCF) was still negative. In 2003, DFI contribution to (GFCF) was -1,8 percent. The condition was clarified by comparing DFI Potential Index rank and DFI Performance Index's as seen in Table 1.2.

Table 1.2
Development of regional and global DFI flow (US$ Billion)

	1999	2000	2001	2002	2003
World	1,086.7	1,387.9	817.6	678.8	559.6
Developed Country	828.4	1108.8	571.5	489.9	366.6
Developing Country	231.9	252.5	219.7	157.6	172.0
ASEAN					
Indonesia	-1.9	-4.6	-3.0	1.0	-0.6
Malaysia	3.9	3.8	0.6	3.2	2.5
Philippine	1.7	1.3	1.0	1.8	0.3
Thailand	6.1	3.4	3.8	1.1	1.8
Singapore	16.1	17.2	15	5.7	11.4
Brunei	0.7	0.5	0.5	1.0	2.0
Cambodia	0.2	0.2	0.2	0.2	0.1
Laos	0.05	0.03	0.02	0.03	0.02
Myanmar	0.3	0.2	0.2	0.2	0.1
Vietnam	1.5	1.3	1.3	1.2	1.5
EAST ASIA					
Japan	12.7	8.323	6.2	9.2	6.3
South Korea	9.4	8.6	3.7	2.9	3.8
China	40.3	40.7	46.9	52.7	53.5

Source: World Investment Report 2004 – UNCTAD

Table 1.3
Ratio DFI to GFCF in ASEAN countries, years of 1971-1991 (in percent)

Country	1971-975	1976-1980	1981-1985	1986-1991
Indonesia	4.6 (18.3)	2.4 (20.7)	1.0 (27.8)	2.4 (33.4)
Malaysia	15.2 (24.0)	11.9 (27.2)	10.8 (34.1)	9.7 (29.3)
Philippine	1.0 (25.3)	0.9 (30.1)	0.7 (24.0)	5.7 (17.9)
Singapore	15.0 (41.4)	16.6 (42.0)	17.4 (46.8)	29.4 (37.7)
Thailand	3.0 (24.7)	1.5 (27.3)	3.1 (23.5)	6.3 (32.1)

Description: number in parenthesis shows ratio GFCF to GDP

Study that has been done by The World Bank shows that DFI in ASEAN is fluctuated, except Singapore, the best place for foreign investors. Overview about the condition can be seen in table 1.3 about ratio DFI to GFCF in ASEAN countries, 1971-1991 in percent.

Table 1.3 shows between period 1986-1991 ratio DFI to GFCF in Indonesia was 2.4 percent and was the lowest in ASEAN countries, while ratio GFCF to GDP was 33.4 percent. It indicates that foreign investors are likely to invest their capital in Singapore, Malaysia or Thailand

instead of Indonesia.

The decline of Indonesia competitiveness if compared with other countries is as a reflection of the decline of investors' interest and trust toward investment opportunities in Indonesia. One of important issues highlighted in giving rating to investment in a certain country is through value indicator COR (Capital-Output Ratio) or ICOR (Incremental Capital-Output Ratio) which reflects efficiency level in either economic financing or non-economic financing of investment. It means investment in certain country needs low financing or high financing can be seen by comparing ICOR indicator in a certain country. From this following data can be seen ICOR in Indonesia compared to other countries in Asia (Table 1.4)

Table 1.4
ICOR of several countries in Asia
including Indonesia
Year 1980-2000

Country	1980-1990	1993-2000
Malaysia	4.9	4.1
Philippine	13.7	4.4
Thailand	3.0	3.2
Indonesia	4.4	6.3
Korea	3.0	5.1
China	3.3	5.4
India	3.7	4.1

Source: Tang (1993, p 156) Based on World Bank Report (1993), World Bank Investment Report.

Data above shows that in period 1980-1990 ICOR in Indonesia was still relatively small, 4.4, even smaller that Malaysia, 4.9. The highest ICOR is by Philippine, 13.7 percent. This coefficient shows that in Philippine in 1980-1990, to add national output 1 unit needs additional capital 13.7 units.

However, in period 1993-2000, ICOR in Indonesia seemed to be the highest compared to other countries in Asia, 6.3. It showed that efficiency in Indonesia was low. Low efficiency level would not attract foreign investors. Therefore, investment in Indonesia could not compete with other countries.

There are two kinds of investment offender. First, investment by private through either foreign capital investment or domestic capital investment. Second, investment capital by government either through Government Budget or Regional Government Budget. In reaching economic growth, the most important condition is improving investment either by private or by government. Private investment to be a good choice is DFI because it can improve technology, bring greater cash flow, have high skill, dominate international market, have access to international market. Actually, Indonesia has a potential to improve investment especially DFI.

The decline of investment in Indonesia is a condition that does not stand alone meaning there are some correlated factors influencing the investment. Based on research conducted by World Bank there are some aspects influencing investment in a certain country which is how the country do the reform to strengthen business activities. From the research, Indonesia is still not the category conducted the reform.

From the previous overview, it can be seen that economic growth is still lower than other countries. In terms of investment, private investment in Indonesia is still not optimum. Seeing the condition, private investment become attractive to be observed and the condition can be observed more through creating investment indicators and economic variable namely government policy such as real interest rate, government investment, GDP, and the passing of policy in investment by the government. These are important things that have to be paid attention in describing the topic taken:

1. In reaching economic growth, the most important condition is by improving investment either by government or private.
2. Investment in Indonesia has shown improvement since monetary crisis in 1998, but the improvement has not maximized because it still has the potential to be improved. Since many factors have taken part, so it is necessary to examine the factors.

Based on the introduction, the issues to be discussed in this study are:

1. How big the influence of government investment to private investment?
2. How big the influence of GDP to private investment?
3. How big the influence of real interest rate to

private investment?

4. How big the joint influence of government investment, GDP, real interest rate to private investment?
5. Is government policy in October 1993 influences private investment?

Theory, Former research, Hypothesis and Methodology

Theory

A. Factors in Investment determination

Investment can be divided in to two, physical investment and financial investment. In terms of economic analysis, physical investment is preferred. To meet the expectation, there are some conditions affecting investment determination namely: National income, in this case, GDP, real interest rate, government investment, and implementation of government policy in investment.

B. Relationship between GDP and Investment

GDP is used to examine production level of a country, it is calculation of every sector. Sector contribution is role given by every sector to GDP. The calculation of GDP has some approach, through production, income, and spending. In a national economic balance, production value has to be equal with spending value. Economic indicator from spending is described with equation: GDP= C+ I + G (X - M). GDP is the sum of household consumption, government consumption, investment, and export subtracted by import. All investment component has important role on economic growth and labor productivity improvement. Capital stock is essential in continuous economic growth (Solow, 1961)

Relationship between income and investment spending is positive meaning if income increases, investment spending increases as well. On the other hand, if income decreases, investment spending will also decreases. Increased income is likely to improve demand on goods and service, meaning need of good production and service more. (Soediyono, 1984:86)

The condition means that it takes more capital to add current capital or investment project. So that increased income causes increasing in investment project. In this case, Investment (I) is national income function (Yd), so it can be formulated as follows (Suparmoko, BPFE;1990)

I : F (Yd)
I : IO + h Yd with Yd is national income
I : investment
H : investment willingness
IO : investment spending that is not depend on income (autonomous to investment)

C. Relationship between real interest rate with investment

In Classical-Neo investment analysis, the important thing emphasized in analyzing investment is real interest rate not nominal interest rate and can be calculate with: Rs = rn – pe, with Rs is real interest rate, rn is nominal interest and pe is inflation rate. Empirical study conducted by Ficker shows that real interest rate is likely to be constant in a long term. In macro economy, relationship of planned investment is depend on interest rate r, in equation as follows: I = I(r). Relationship between investment and interest rate is also described in Keynes theory about marginal efficiency of investment showing that there is a negative relationship between interest rate and investment, high interest rate will reduce investment and vice versa.

D. Relationship between Government and Private Investment

Relationship between Government and Private Investment is described by Schmidt and Muller in their research in 1991, In case of Morocco, government investment can affect private investment by competing in scarcity of physical and financial source. Real example of this condition in developing country is when government create a barrier to private sector to enter industry in order to protect state-owned enterprises (ikhsan and Basri 1991, 365)

Several Former Research

In a research about factors affecting private investment in Indonesia in 1980-2004, the purpose of which is to know how big variables such as: GDP, capital goods and raw material import, domestic interest, foreign interest, money in circulation, government spending, and dummy variable to private investment. Using analysis method adjustment model or *Partial Adjustment*

Model (PAM), the result is all variables studied have significant roles with trust level about 95%-99%, researcher said that government need to make effort consistently and careful in determining policy about investment. (Ika Anggia S: 2007).

Another research is about the influence of rate interest, exchange rate, export tax as variables that affect private investment and non-oil export and the effects on economic growth in Indonesia 1991-2003. Using description analysis method and analysis technique of correlation and regression. The result showed that interest rate cannot predict but it has positive influence to private investment, exchange rate can predict but it has positive influence to non-oil export. While private investment influence is bigger than non-oil export to economic growth (Bambang Wijakmoko;2004)

Hypothesis

Based on a problem and purpose, the hypothesis of this research is it is presumably that there is significant influences of factors affecting private investment namely, real interest rate, government investment rate, GDP, and influence of policy implementation in investment.

Method

In this research, used method is experimental quasi to explain causality between one or more other variables and also to clarify hypothesis. Investment as dependent variable, and government investment, GDP, real interest rate, and government policy implementation in investment as an independent variable. Data collection technique is by collecting official publications of Ministry of Finance, Central Bureau of Statistics, Bank of Indonesia, Capital Investment Coordinating Board and NGO institutions either national or International level. The data is a series of annual data from 1972 – 2005. Another technique is literature review from certain literatures, documents, journals, and other relevant reference materials. Analysis technique used is simple and multiple correlation analysis using data processing software, e-views.

Data Description

1. Real interest rate

Real interest rate is a cost element deciding investment decision, and the meanwhile, interest rate cannot be separated from inflation. In September 2004, 3-month-interest rate and 12 month-deposit reach 7.31 percent and 7, 27 percent. While interest rate for rupiah loan for capital need and investment reach 13.80 and 14.33 percent. Domestic interest rate development during 2004 is lower than that of 2003 (Indonesia Financial Economics Statistic - Bank of Indonesia). In conclusion, if monetary authority reduces the amount of money through banking credit for private sector, real interest rate will increase. Consumption and investment will decrease. As a result aggregate demand will decrease and this causes declining of price rate and national output. Real interest rate used in the research is interest rate of 3 month-deposit. Election of the real interest rate is based on the value of 3-month-deposit interest rate is generally between saving interest rate and loan interest rate. Also there are many economic research use this variable.

The development of real interest rate of 3-months-deposit between the year of 1976 until 2006 showed fluctuation, the highest value was 40% in 1998 and declined at 6.71% in 2004. In 2005, rose again at 11.75%. The development of real interest rate of 3-months-deposit can be seen in table 4.1 as follows:

Year	Interest Rate (%)	Year	Interest Rate (%)
1972	12.00	1989	17.10
1973	9.00	1990	17.60
1974	9.00	1991	23.40
1975	9.00	1992	19.50
1976	9.00	1993	14.50
1977	6.00	1994	12.60
1978	6.00	1995	16.80
1979	6.00	1996	17.30
1980	6.00	1997	20.30
1981	6.00	1998	40.00
1982	6.00	1999	25.30
1983	15.50	2000	12.50
1984	17.50	2001	15.50
1985	15.20	2002	15.20
1986	14.60	2003	10.20
1987	17.50	2004	6.40
1988	17.80	2005	8.10

Table 4.2
Development of GDP year 1972 – 2005 based on constant price year of 2000

Year	GDP (Billion Rp)	Year	GDP (Billion Rp)
1972	6,080.70	1989	200,568.60
1973	8,831.00	1990	234,654.60
1974	14,002.10	1991	2273,439.50
1975	16,531.80	1992	311,778.90
1976	20,224.80	1993	362,325.50
1977	24,859.00	1994	419,945.80
1978	29,743.00	1995	499,375.80
1979	41,877.50	1996	585,133.90
1980	59,426.30	1997	689,650.60
1981	70,647.50	1998	1,050,089.90
1982	77,624.50	1999	1,208,278.00
1983	93,122.70	2000	1,389,769.00
1984	107,833.60	2001	1,684,281.00
1985	116,329.50	2002	1,897,800.00
1986	123,186.50	2003	2,086,758.00
1987	149,740.70	2004	2,273,142.00
1988	170,480.70	2005	2,729.708.00

Table 4.3
Investment development year 1972 – 2005 based on constant price year of 2004

Year	Government Investment	Year	Government Investment
1972	165.10	1989	10,932.30
1973	246.30	1990	13,106.50
1974	907.90	1991	17,148.70
1975	1,049.90	1992	19,965.90
1976	957.20	1993	22,602.30
1977	1,029.60	1994	20,438.20
1978	1,117.80	1995	13,897.90
1979	2,123.60	1996	27,965.50
1980	3,423.00	1997	37,398.20
1981	6,313.20	1998	40,412.50
1982	6,633.20	1999	31,913.60
1983	7,538.40	2000	34,149.10
1984	3,412.50	2001	44,500.40
1985	9,316.30	2002	50,636.20
1986	6,890.10	2003	69,596.20
1987	8,727.50	2004	71,900.00
1988	9,703.10	2005	100,000.00

2. Gross Domestic Product

Economic growth always becomes central issue in development matter, inflation and payment balance. The analysis of economic growth cannot be separated from the calculation of GDP because basically, calculating economic growth is calculating how many GDP of a certain country. Central Bureau of Statistic of Indonesia uses basic year of 2000. This value is used to calculate GDP based on constant price by using goods and service value at that year to eliminate the influence of price changes so the changes is only caused by real changes of output. The development of GDP in Indonesia during research period can be seen in Table 4.2.

3. Government Investment

The purpose of government investment is to improve society welfare. So, government investment is social investment because generally investment spending is used to gain constant social capital or social overhead capital such as: highway, harbor and irrigation, school, hospital and dam construction. The development of government investment in Indonesia during research period can be seen in Table 4.3.

4. Government Investment Policy

a. Policy Package October 23, 1993

Rapid changes in various parts of the world have spurred competition in capital investment and trading between nations. In accordance with demands of the development, it is necessary to improve national economic competitiveness such as: simplification of the various licensing, procedures in capital investment, ease of goods flow, reducing of import duty and simplification of import commerce.

Government has established a set of deregulation and de-bureaucratization in various fields:

1) Export and Import

Deregulation in export and import fields is an ease of customs, taxation, and import commerce for EPTE goods mobilization, bonded zone and customs area. The purpose of the deregulation is to improve attractiveness for investor especially in improving non-oil import.

2) Fare and Import regulation

The purpose of reducing of customs duty and additional customs duty, and simplification of import regulation is to improve industrial efficiency and to develop downstream industries and supporting industries of export to raise non-oil export and to enhance job opportunities and finally to anticipate Uruguay round. With regard to competitiveness of goods that have been produced within a country, there have been taken various steps such as: fare reducing and elimination and Import regulation changes.

3) Capital investment

Share ownership requirement in foreign capital investment has been refined to encourage foreign capital investment in developing their capital.

a. Outside of the bounded area:
   - ~ 100% foreign capital investment with minimum capital of $50 million, share transfer at 51% in 20 years, started at after 10 years company has been operated commercially.
   - ~ It is possible for 100% foreign capital investment with minimum capital of $2 million on condition that: the company produces auxiliary-raw materials, semi-finished materials or other components to fulfill other companies need. The purpose of this policy is to attract relocation planning from developed countries and to enhance supporting industries.

b. Inside of the bounded area:
   - ~ Maximum export that can be entered in domestic market is 25%.

4) Licensing

Licensing procedures of land reserve, location license and building permit are simplified.

5) Farmation

- ~ Allowed to import registered finished drugs including the drugs not produced domestically.
- ~ Import can be conducting by pharmaceutical factories, seller or drug store.
- ~ Allowed to produce medicine based on

contracts between pharmaceutical factories.

- ~ Environmental Impact assessment
- ~ Simplification of terms of reference of environmental impact assessment
- ~ Types of activities required environmental impact assessment set by Ministers or Head of environmental impact control agency after considering arguments and recommendation from the companies.

b. Incentive package October 1, 2005

Incentive packages October 1, 2005 are an integral parts, implementation, and follow-up of Policy package August31, 2005. The objectives of this package is to empower economic based and to defense acceleration momentum of economic growth by improving competitiveness and attractiveness of investment to enlarge job opportunities and to reducing poverty.

- ~ Fiscal incentive package such as: changes of value-added tax of primary product to non-taxable goods, deferment of non-tax revenues imposition for import and export transactions, enhancement of non-taxable revenue and exemption of import duty.
- ~ Regulation reformation in trading to expedite goods flow, to increase competitiveness and to protect domestic products.
- ~ Regulation reformation in transportation to reduce high-cost economy so that domestic products can compete with international market.
- ~ Changes of Presidential Instruction to stabilize farmer revenue as a result of rise in oil prices
- ~ Direct cash subsidy started in October 1, 2005 until the next three months, giving cash at the amount of 100 thousands monthly to 15,5 million household with low income.

c. Presidential Instruction number 3 year of 2006

Government effort to improve infrastructure and investment started by setting policy package of infrastructure 2006 and policy package of investment. The policy package of infrastructure 2006 includes four main policies: Strategic policy frame work across sectors, sectoral policy in transportation, regional government role in five policies related to regional owned enterprises and project transactions of infrastructure development.

d. Presidential Instruction number 6 year of 2007

Presidential Instruction number 6 year of 2007 is a continuation of Presidential Instruction number 3 year of 2006 which is about policy package in improvement of investment to accelerate real sector development and to empower micro, small and middle business sector to increase economic growth including improvement of investment, reformation of financial sector, acceleration of infrastructure development, and empowerment of micro, small and middle business sector.

1) Development of Private Investment in Indonesia

An overview of the development of private investment in Indonesia can be seen through contribution and investment development in national revenue identity Y= C+ I + G + X – M. Investment data is gross domestic investment by either private investment or government investment. Table 4.4 shows investment in use of gross domestic products based on prevailing price.

From table 4.4, it can be seen that Gross Domestic Product, according to five-year-use is increased significantly. Investment contribution to Gross Domestic Product shows fluctuation as seen in the Table 4.5.

Private investment development in Indonesia has been increased from year to year, except in period of after crisis (1999). Private investment development from 1971 to 2005 based on constant price basic year of 2000 in billion rupiah can be seen in the Table 4.6.

Table 4.4 Calculation of National revenue (spending) based on prevailing price (billion)

Numb	Types of use	Year							
		1970	1975	1980	1985	1990	1995	2000	2005
1	Household consumption	2,578	8,731	27,502	56,857	124,089	281,843	856,798	1,785,594
2	Government consumption	293	1,253	4,688	10,893	17,572	35,584	90,779	224,980
3	Investment	455	2,571	9,485	21,779	61,623.20	129,217.50	275,881.20	599,795.20
4	Export	1,204	7,146	22,885	18,612	28,143	45,417	65,407	85,570
5	Import	1,102	5,409	14,242	12,552	23,028	40,627	40,365	57,550
6	Gross Domestic Product	3,428	1,4292	50,318	95,589	208,399.2	451,434.5	1,248,500	2,638,389.2

Source: Ministry of finance, data from various years, processed

Table 4.5 Investment contribution to Gross Domestic Product

Year	Gross Domestic Product (billion)	Investment (billion)	Contribution (%)
1970	3,428.00	455.00	13.27
1980	50,318.30	9,485.00	18.85
1990	208,399.20	61,623.20	26.26
2000	1,248,500	275,881.20	29.57
2005	2,638,389.20	599,795.20	22.73

Source: bank of Indonesia, processed

Table 4.6 Private Investment Development in Indonesia 1972 -2005

Year	Private investment (billion)	Year	Private Investment (billion)
1972	910.10	1989	39,643.50
1973	1,269.30	1990	48,516.70
1974	1,346.60	1991	53,665.40
1975	2,176.60	1992	58,479.20
1976	3,063.70	1993	64,045.00
1977	3,771.00	1994	84,942.40
1978	4,742.10	1995	115,319.60
1979	6,287.70	1996	129,687.10
1980	8,477.20	1997	140,287.80
1981	8,181.80	1998	202,630.80
1982	10,263.00	1999	194,102.10
1983	14,025.50	2000	241,732.10
1984	18,891.60	2001	279,374.90
1985	15,458.70	2002	294,258.40
1986	20,559.90	2003	301,221.70
1987	25,588.20	2004	410,000.00
1988	31,061.90	2005	499,000.00

2) Investment in Indonesia

There are factors influencing investment in Indonesia other than political and social stability, such as: economic stability, basic infrastructure condition (electricity, telecommunication and road and harbor infrastructure), finance sector, labor market including its issues, regulation and taxation, bureaucracy, good governance including corruption, consistency and certainty in government policies. Based on World Bank report, there are four important factors: economic stability, corruption rate, bureaucracy, and certainty of economic policies.

Survey result from JETRO about obstacles in business growth among Asian countries shows different result. The biggest obstacle for investment in Indonesia is expensive labor wages and complicated taxation. Survey conducted by IPEM in 2005 showed that cost to overcome labor problem was 5% of annual production cost. Of the 600 respondents, 12.6% have experienced dispute in determining wages, 5.8% have experienced problem related to labor social assurance, and 8.4% have experienced problem in labor union (ISEI, 2006).

Industrial partnership is one of crucial points in economic competitiveness. Although the total of strike does not increase significantly since reformation in 1998, the risk of uncertainty caused by adversarial industrial partnership is the most essential factor making attractiveness of Indonesia in investment becomes lower.

Another serious problem is the increasing of cost in doing business because of regional autonomy. Budget constraints and weak policy priority has caused pressure to improve tax revenue and regional retribution without taking into account the carrying capacity of the local and national economy.

Recently, World Bank has published reports called Doing Business 2007 and Doing Business 2008: "How to Reform" about the ease of doing business in 2006. It has placed Indonesia in the order of the135 th out of 175 countries in the world. This condition is worse than before which is in the order of 131. Complete result of the report can be seen as follows:

I. Starting a business in a 161st position in 2006 and 168th position in 2007

Reformation Criteria	2006	2007
Total of Procedure	12	12
Time needed (days)	97	105
Cost (% from income per capita)	86.7	80
Minimum capital (% from income per capita)	83.4	38.4

II. Dealing with licenses in 131st position in 2006 and 99th position in 2007

Reformation Criteria	2006	2007
Total of Procedure	19	19
Time needed (days)	224	196
Cost (% from income per capita)	311.0	286.8

III. Employing workers in 140th position in 2006 and 153rd in 2007

Reformation Criteria	2006	2007
Difficulty in determining of labor	61	72
Work hour limitation	20	0
Work termination	50	60
The average from three indexes	44	44
Overhead cost excluding wages charged	10	10
Severance costs to be paid	108	108

IV. Registering property in 120th position in 2006 and 121st in 2007

Reformation Criteria	2006	2007
Total of procedure	7	7
Time needed (days)	42	42
Cost (% from property value)	10.5	10.5

V. Getting Credit in 83rd position in 2006 and 68th in 2007

Reformation Criteria	2006	2007
Law enforcement	5	5
Transparency of credit information	2	3
Data provision by central bank about individual and organizational credit history	8.4	20.5
Data provision for company or organization about individual and organizational credit history	0.2	0.2

VI. Protecting investors in 60th position in 2006 and 51st position in 2007

Reformation Criteria	2006	2007
Transaction information exposure by share holders	8	9
Accountability by the Board of Director for share holders	5	5
Ease for share holders	3	3
Protection for investors	5.3	5.7

VII. Paying Taxes in 133rd position in 2006 and 110th position in 2007

Reformation Criteria	2006	2007
Tax value (annual)	52	51
Time needed in tax payment (hour per annual)	576	266
Tax imposition (% from profit)	37.2	37.3

VIII. Trading across borders in 60th position in 2006 and 41st in 2007

Reformation Criteria	2006	2007
Export document (total)	7	5
Time needed to export (days)	25	21
Export Cost (US $ per container)	546	667
Import Document (total)	10	6
Time needed to impor (days)	30	27
Import Cost (US $ per container)	675	623

IX. Enforcing Contracts in 145th position in 2006 and 141st in 2007

Reformation Criteria	2006	2007
Total of Procedure	34	39
Time needed (days)	570	570
Cost (% from claim)	126.5	122.7

X. Closing a business in 136th position in 2006 and 2007

Reformation Criteria	2006	2007
Cost (% from estate)	5.5	5.5
Recovery rate, liabilities had to pay to creditors	18	18
Employees (cents per dollar)	11.8	12.6

Hypothesis Testing and Results

The first analysis step is testing the accuracy of equation through choosing the linear model or linear log using Mackinnon-White-Davidson (MWD) method. The procedure are as follows:

~ Doing estimation model of linear equation and linear log to get prediction value of F1 (= I private - Res and F2 (=InY-Res02)

~ From step above, we can get value of Z1=In F1-F2 and Z2=antilog F2-F1.

~ Doing significance test of Z1 and Z2 by regressing each equation and adding Z1 to linear equation and Z2 to log equation.

~ Selecting the right model is by seeing the significance of Z1 and Z2. If Z1 is significant statistically, hypothesis is zero meaning the right model is linear will be rejected. On the other hand, if Z1 is insignificant, hypothesis is zero, failed and rejected and so does with Z2.

The result of the calculation as below:

Dependent variable: I private
Method: Least Squares
Date: 10/02/07 Time: 08:21
Sample (adjusted): 1983 2003
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9852,757	7857, 163	1,253984	0,2304
Igovernment	-0, 380193	0,622129	-0,611116	0,5509
GDP	0.144787	0,018608	7,781045	0,0000
Realinteresrate	9605,393	74525,89	0,128887	0,8993
Dummy	30701,30	9122,338	3,365508	0,0046
Z1	-3294,437	44247,92	-0,074454	**0,9417**
R-squared	0,989021	Mean dependent var		108544,1
Adjusted R-squared	0,985100	S.D dependent var		100006.4
S.e. of regression	12207.16	Akaike info criterion		21.90076
Sum squared resid	2.09E+09	Schwarz criterion		11.19948
Log likelihood	-213.0076	F-statistic		252.2407
Durbin-Watson stat	1.207455	Prob (F-statistic)		0.000000

Dependent Variable: LOG (IPrivate)
Method: Least Squares
Date: 10/02/07 Time: 08:22
Sample (Adjusted): 1972 2003
Included obeservations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.646629	0.476366	-5.555868	0.0001
LOG(IPrivate)	-0.291224	0.095358	-3.054001	0.0080
LOG(GDP)	1.344573	0.108969	12.33905	0.0000
LOG(RealInterestrate)	0.231435	0.053383	4.335352	0.0006
DUMMY	-0.053413	0.082935	-0.644030	0.5293
Z2	-1.57E-05	3.11E-06	-5.056288	0.0001
R-squared	0.996419	Mean dependent var		10.93051
Adjusted R-squared	0.995226	S.D dependent var		1.377423
S.E of regression	0.095174	Akaike info criterion		-1.631261
Sum squared resid	0.135872	Schwarz criterion		-1.332826
Log likelihood	23.12824	F-statistic		834.8320
Durbin-Watson stat	1.502549	Prob(F-statistic)		0.000000

Regression Results of both equation shows that linear model is more appropriate to explain private investment in Indonesia. It can be seen in t value at Z1 coefficient. Absolute t value is 0.074 shows that Z1 is insignificant, because it is smaller than t critical value in table at α=5% and df=29 with the amount of 1.6999. In conclusion, Z1 is insignificant through t testing, so hypothesis 0 stated that appropriate regression function is linear model failed rejected.

Hypothesis testing

a. Testing Regression coefficient simultaneously
   Relationship among government investment, GDP, real interest rate and government policy simultaneously with below hypothesis:
   H0 : β1Dt = β2 = β3 = β4 = 0 meaning real interest rate, government investment, GDP and government policy do not affect significantly to private investment.
   H1 : β1Dt = β2 = β3 = β4 ≠ 0 meaning real interest rate, government investment, GDP and government policy affect significantly to private investment.
b. Testing Regression coefficient partially
   1. Government Investment testing
      ~ H0 : β3 = 0, meaning government investment does not affect significantly to private investment.
      ~ H1 : β3 ≠ 0, meaning government investment affects significantly to private investment.
   2. GDP Testing
      ~ Ho : β4 = 0, meaning GDP does not affect significantly to private investment.
      ~ H1 : β4 ≠ 0 menaing GDP affects significantly to private investment.
   3. Real Interest rate Testing
      ~ H0 : β3 = 0, meaning real interest rate does not affect significantly to private investment.
      ~ H1 : β3 ≠ 0, meaning real interest rate affects significantly to private investment.
   4. Implementation of government policy Testing
      ~ H0 : β3 = 0, meaning implementation of government policy does not affect significantly to private investment.
      ~ H1 : β3 ≠ 0, meaning implementation of government policy affects significantly to private investment.

Hypothesis testing (rejected or accepted) uses t table as single measurement and F table as multiple measurement. If t/F value > t/F table, H0 is rejected and H1 is accepted and if t/F value < t/F table, H1 is accepted and H1 is rejected with trust level 95% or α = 5%. Hypothesis testing uses Eviews program and the result is below:

Dependent Variable: IPRIVATE
Method: Least Squares
Date: 10/02/07 Time: 11:51
Sample: 1972 2005
Included observations: 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2393.374	3545.619	-0.675023	0.5050
GDP	0.127733	0.014019	9.111200	0.0000
IGOVERNMENT	1.141133	0.437508	2.608254	0.0142
REALINTERESTRATE	-1.9525.85	20141.04	-0.969456	0.3403
DUMMY	14792.32	8318.100	1.778329	0.0858
R-squared	0.988750	Mean dependent var		98029.46
Adjusted R-squared	0.987198	S.D dependent var		129968.2
S.E of regression	14705.44	Akaike info criterion		22.16488
Sum squared resid	6.27E+09	Schwarz criterion		22.38934
Log likelihood	-3371.8029	F-statistic		637.1746
Durbin-Watson stat	1.782557	Prob(F-statistic)		0.000000

R-squared value is 0.988 meaning private investment variable can be explain by explanatory variable in a model: government investment, GDP, interest rate and dummy with amount 98.80%, while the residue is explained by other variables outside the proposed model. Analysis result shows that all independent variables simultaneously affect the dependent variable, shown by F-stat = 637.17, which is bigger than F table at α 5% (4.29 is from k-1, n-k = 5-1, 34 – 5) = 2.56. Individually, government investment variable has a positive and significant influence at α 1 and 5 % shown by t value = 9.111 compared to t table (df = 29), 2.462 and 1.699 respectively.

GDP variable also has a positive and significant influence at α 1 and 5 % shown by t value = 2.608 compared to t table (df = 29), 2.462 and 1.699 respectively. In contrast, real interest rate variable does not affect private investment at at α 5 % shown by t value = 0.969 which is smaller than t table (df = 29) at 1.699. However, from the sign test, there is a conformity with theory which can be shown from negative relationship between investment and interest rate. Dummy variable has a positive and significant influence as well to private investment at α 5 % shown by t value = 1.778 compared to t table (df = 29) 1.699.

Based on testing above, It can be made a regression equation: IPrivate = C + 0.128 GDP + 1.141 IGovernment – 0.19525.85 RInterestRate. Next, to get regression line exactly near with the data in order to get exact prediction, ordinary least square (OLS) method was used and to produce BLUE (Best Linier Unbiased Estimators) long term regression, classical test assumption was used, such as:

Autocorrelation detection

Autocorrelation symptom test is to know whether there is any correlation among sequence observation from time to time in regression model, done by using Durbin Watson test, easiest test and can be compared directly with statistical value of Durbin Watson table. To know whether there is any deviation of autocorrelation model or not is by using position of Durbin Watson value gotten from multiple regression calculation. This step will test whether there is any mistake at t period with disturbing mistake at previous period (t-1) in linear regression model.

Autocorrelation emerges because successive observation from time to time related one another. It is because residue is not free from one observation to another. Given that there is an intercept (c) in this model and no lag variable in independent variable, to detect whether there is any autocorrelation or not, Durbin – Watson (DW test) can be used. Criteria of decision making related with autocorrelation presence are as follows:

1. Area 0 < dw < dL, positive autocorrelation
2. Area dL < dw < dU, hesitation area
3. Area dU < dw < 4 – dU, no autocorrelation
4. Area 4 – dU < dw < 4- dL, hesitation area
5. Area 4 – dL < dw < 4, negative autocorrelation

From regression analysis can be seen that the calculation shows Durbin Watson value at 1.782. After consulted with Durbin Watson table where dL : 1.208 and dU : 1.728 (n+34 and df = 4) it can be concluded that dw value is at between 1.728 – 2.272, it shows that model has passed autocorrelation. Besides that, test can be done by using Breusch-Godfrey Test (BG – test), calculating residual value first (Res) and the value will be transformed in to lag variable (Res_1), next BG test uses regressed model:

Res = a + b1 Igovernment + b2 GDP + b3 Real Interest Rate + b4 dummy + b5 (res_1).

If coefficient parameter for residual lag (Res_1) gives significant probability smaller than 0.05, it shows that there is an autocorrelation. The result is as follows:

Dependent variable : RES
Method : Least Square
Date : 10/02/07 Time : 07:53
Sample (adjusted): 1973 2005
Included observations: 33 after adjustment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-113.6391	3784.779	-0.030025	0.9763
IGOVERNMENT	-0.029999	0.465942	-0.064384	0.9491
GDP	0.001229	0.015028	0.081762	0.9354
REALINTERESTRATE	-966.9488	20.923.00	-0.046215	0.9635
DUMMY	-22.89916	8609.736	-0.002660	0.9979
RES (-1)	0.080620	0.207988	0.387619	0.7013
R-squared	0.005607	Mean dependent var		-103.4027
Adjusted R-squared	-0.178540	S.D dependent var		13985.77
S.E of regression	15183.03	Akaike info criterion		22.25671
Sum squared resid	6.22E+09	Schwarz criterion		22.52880
Log likelihood	-361.2357	F-statistic		0.030450
Durbin-Watson stat	1.860007	Prob(F-statistic)		0.999485

Output display shows that coefficient parameter for residual lag 1 (res_1 or Res (-1) gives significant probability at the amount of 0.7013. This result confirms that Hypothesis 0 failed rejected because significant probability values is bigger than = α 5% or 0.05 meaning that there is no autocorrelation in a model.

Heteroscedasticity Detection

Heteroscedasticity symptom test to test whether there is a difference in variance form one residual observation to another using auxiliary regression, residual value (ei) with other independent variables (after equation is changed with natural logarithm (Ln), next, hypothesis testing is conducted with t - test, with certain trust degree (α) with freedom degree df (n-k), t-table value can be determined. If t-test > t=table, there is a heteroscedasticity. In contrast, if the t-test > t-table, there is no heteroscedasticity.

The purpose of this step is to test whether there is any variant differences from one residual observation to another. If the residual observation variants is constant from one observation to another, it is called homoscedasticity, and if it is different, it is called heteroscedasticity. Heteroscedasticity occurs as the effect of residual that has no constant variant from one observation to another. This research uses park test to detect the presence of heteroscedasticity by regressing square residual log (μ^2 t) as dependent variable, with independent variable: government investment, GDP, and real interest rate in logarithm.

This park method expresses that variance (s^2) is the function of independent variables stated in equation : o^2 i = α Xi β. Next, the equation is converted in logarithm Ln o^2 I = α + β Ln Xi + vi. Because o^2 I is generally unknown then it is estimated by using residual Ut as a proxy then equation becomes Ln U^2 I as a dependent and independent variable, so regression equation becomes: Ln U^2i = a + b1 X1 + b2 X2 + b3 X3 - b4 X4. If beta coefficient parameter in equation is significant statistically, then it shows that there is heteroscedasticity in a model estimated and vice versa, if beta parameter is insignificant statistically, then the assumptions of homoscedasticity in the model is failed rejected.

Result:
Dependent Variable: LOG (RES^2)
Method: Least Squares
Date: 10/02/07 Time: 22:06
Sample (adjusted): 1972 2003
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.20536	9.853354	1.238702	0.2333
LOG(IGOVERNMENT)	-0.883060	1.596888	-0.552988	0.5879
LOG(GDP)	0.908447	1.778388	0.510826	0.6164
LOG(REALINTERESTRATE)	-0.295624	1.103971	-0.267782	0.7923
DUMMY	1.797993	1.895074	0.948772	0.3568
R-squared	0.253090	Mean dependent var		16.90498
Adjusted R-squared	0.066362	S.D dependent var		2.461597
S.E of regression	2.378516	Akaike info criterion		4.775088
Sum squared resid	90.51744	Schwarz criterion		5.023783
Log likelihood	-45.13842	F-statistic		1.355397
Durbin-Watson stat	2.083686	Prob(F-statistic)		0.292976

Calculation shows that coefficient parameter is insignificant for independent variable (because sifnificancy of $\alpha > 0.05$) then H0 stated that there is no heteroscedasticity in the model is failed rejected. It can be concluded that there is homoscedasticity in regression model or in another word there is no heteroscedasticity.

Multicollinearity Detection

This test intends to measure whether there is a correlation among independent variable in regression model. The right regression model should not contain correlation among its independent variables. The following ways are used to detect multicollinearity presence in a model:

~ In a simple way multicollinearity symptom can be known from long term regression result by seeing the presence of determination coefficient (R^2) is high, significant F statistics, but only a few independent variables which significantly affect dependent value through t test. From data processing, it can be seen that this symptom does not occur, because the calculation shows that determination coefficient (R^2) is high, significant F statistics, and most of independent variable is significant, it can be concluded that there is no multicollinearity in the model.

~ To support test result, partial regression is conducted by using auxiliary regression among independent variables and then comparing R^2 value with R^2 main model. If R^2 is higher than main model, then it can be confirmed that there is multicollinearity in partial regression.

Dependent variable: I Government
Method: Least Square
Date: 10/02/07 Time:22:18
Sample: 1972 2005
Included observations : 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	319.422	1359.418	2.353524	0.00253
GDP	0.029610	0.002236	13.24084	0.0000
REALINTERESTRATE	1222.148	8401.987	0.145459	0.8853
DUMMY	1828.230	3455.096	0.529140	0.6006
R-squared	0.940186	Mean dependent var		20474.03
Adjusted R-squared	0.934205	S.D dependent var		23924.02
S.E of regression	6136.649	Akaike info criterion		20.39208
Sum squared resid	1.13E+09	Schwarz criterion		20.57165
Log likelihood	-342.6653	F-statistic		157.1854
Durbin-Watson stat	0.892805	Prob(F-statistic)		0.000000

Dependent variable: GDP
Method: Least Square
Date: 10/02/07 Time:22:20
Sample: 1972 2005
Included observations : 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-77418.39	43.958.05	-1.761188	0.0884
IGOVERNMENT	28.83754	2.177924	13.24084	0.0000
REALINTEREST RATE	-53395.43	262115.8	-0.203709	0.8400
DUMMY	122502.0	105992.7	1.155759	0.2569
R-squared	0.942149	Mean dependent var		559624.7
Adjusted R-squared	0.9363364	S.D dependent var		759166.6
S.E of regression	191509.1	Akaike info criterion		27.27339
Sum squared resid	1.10E+12	Schwarz criterion		27.45296
Log likelihood	-459.6476	F-statistic		162.8574
Durbin-Watson stat	0.763578	Prob(F-statistic)		0.000000

Dependent variable: Real Interest rate
Method: Least Square
Date: 10/02/07 Time:22:21
Sample: 1972 2005
Included observations : 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.007606	0.032110	-0.236878	0.8144
IGOVERNMENT	5.77E-07	3.96E-06	0.145459	0.8853
GDP	-2.59E-08	1.27E-07	-0.203709	0.8400
DUMMY	0.037493	0.075090	0.499307	0.6212
R-squared	0..013469	Mean dependent var		0.004059
Adjusted R-squared	-0.085184	S.D dependent var		0.127963
S.E of regression	0.133302	Akaike info criterion		-1.082273
Sum squared resid	0.533080	Schwarz criterion		-0.902701
Log likelihood	22.39865	F-statistic		0.136527
Durbin-Watson stat	1.530913	Prob(F-statistic)		0.937442

Dependent variable: Dummy
Method: Least Square
Date: 10/02/07 Time:22:21
Sample: 1972 2005
Included observations : 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.083172	0.076327	1.089680	0.2845
IGOVERNMENT	5.06E-06	9.56E-06	0.529140	0.6006
GDP	3.48E-07	3.01E-07	1.155759	0.2569
REALINTERESTRATE	0.219820	0.440251	0.499307	0.6212
R-squared	0.610754	Mean dependent var		0.382353
Adjusted R-squared	0.571829	S.D dependent var		0.493270
S.E of regression	0.322770	Akaike info criterion		0.686378
Sum squared resid	3.125416	Schwarz criterion		0.865950
Log likelihood	-7.668427	F-statistic		15.69070
Durbin-Watson stat	0.374464	Prob(F-statistic)		0.000003

Auxiliary regression shows each R^2 value is 0.940; 0.942; 0.013; 0.610. The values are smaller if compared with R^2 in the main model (=0.988). Then it can be confirmed that there is no multicollinearity.

Discussion of the result

Data used in the research is annual data such as private investment, real interest rate, government investment and GDP from 1972 to 2005:

Year	Private Investment (Y)	Government Investment	GDP	Real Interest Rate	Dummy
1972	910.10	165.10	6,080.70	0.055	0
1973	1,269.30	246.30	8,831.00	-0.228	0
1974	1,346.60	907.90	14,002.10	-0.312	0
1975	2,176.60	1,049.90	16,531.80	-0.099	0
1976	3,063.70	957,20	20,224.80	-0.11	0
1977	3,771.00	1,029.60	24,859.00	-0.049	0
1978	4,742.10	1,117.80	29,743.40	-0.023	0
1979	6,287.70	2,123.60	41,877.50	-0.103	0
1980	8,447.20	3,423.00	59,426.30	-0.117	0
1981	8,181.80	6,313.20	70,647.50	-0.066	0
1982	10,263.00	6,633.00	77,624.50	-0.033	0
1983	14,025.50	7,538.40	93,122.70	0.036	0
1984	18,891.60	3,412.50	107,833.60	0.071	0
1985	15,458.70	9,316.30	116,329.50	0.106	0
1986	20,559.90	6,890.10	123,186.50	0.087	0
1987	25,588.20	8,727.50	149,740.70	0.084	0
1988	31,061.90	9,703.10	170,480.70	0.096	0
1989	39,643.50	10,932.30	200,568.60	0.108	0
1990	48,516.70	13,106.50	234,439.50	0.097	0
1991	53,665.40	17,148.70	311,778.90	0.141	0
1992	58,479.20	19,965.90	362,325.50	0.119	0
1993	64,065.00	22,602.303	419,945.80	0.049	1
1994	84,942.40	20,438.20	499,375.80	0.04	1
1995	115,319.60	13,897.00	585,133.90	0.074	1
1996	129,687.10	27,965.50	689,650.60	0.093	1
1997	140,287.80	37,398.20	689,650.60	0.092	1
1998	202,630.80	40,412.50	1,050.089.00	-0.376	1
1999	194,102.10	31,913.60	1,208.278.00	0.233	1
2000	241,732.10	34,149.10	1,389,769.00	0.031	1
2001	279,374.90	44,500.40	1,684,281.00	0.029	1
2002	294,258.40	50,636.20	1,897,800.00	0.052	1
2003	301,221.70	69,596.20	2,086,758.00	0.051	1
2004	410,000.00	71,900.000	2,273,142.00	0	1
2005	499,000.00	100,000.00	2,729,708.00	-0.09	1

Based on hypothesis testing and calculation, then analysis among research variables are as follows:

a. All independent variables: government investment, GDP, real interest rate, government policy simultaneously affect dependent variable, private investment. This shows that all the government's policies, fiscal policy, monetary policy, and income have an effect on private investment.
b. Based on individual calculation, relationship between government investment and private investment has a positive and significant effect, with government coefficient 1.411 meaning 1 billion investment will cause increase in private investment of 1.141 billion. This shows that government investment is usually in the provision of infrastructure to encourage new private investment.
c. Based on individual calculation, relationship between GDP and private investment has a positive and significant effect, with government coefficient 0.128 meaning 1 billion investment will cause increase in private investment of 0.128 billion. This shows that with increasing GDP as state revenue can encourage private investment.
d. Based on individual calculation, relationship between real interest rate and private investment, it does not affect private investment. However, from sign conformity test, there is a conformity with theory, it can be seen in negative relationship between investment and interest rate. Presumably, there are other variable more determining towards private investment during research period, such as: security condition and investment deregulation policy. This is in accordance with concept of inelastic demand curve where investment sensitivity is lower towards interest change.
e. Based on individual calculation, dummy variable, the influence of implementation of government policy in investment, it can be seen that implementation of government policy, October 23, 1993 (October Package 1993) used as measurement in implementation of government policy, has positive effect to the increase of private investment. Dummy variable coefficient shows value 14792.32 meaning policy change has caused an increase in private investment of 14792.32 billion.

Based on above-mentioned analysis, it can be described:

1. Private investment as a variable in this research has been influenced by many factors. It can be concluded that private investment is positively influenced by real interest rate, government investment, GDP, either individually or as a whole in a causality relationship.
2. Government Investment in the form of government spending through its spending budget which function to empower real sector, based on test, also can influence private investment.
3. GDP level in the form of economics ability of a nation as a whole has positive influence to private investment change.
4. Real interest rate in the form of the difference between income per capita in relationship with Domestic Purchasing Power, where society have high purchasing power will support investment.
5. Real interest rate in the form of the difference between interest rate generally applicable with inflation rate, individually, has no significant effect on private investment. Thus, private investment has no sensitivity towards interest change meaning there is another factor namely institutional condition.
6. Implementation of government policy, in this case, policy set in 1993 has significant influence on private investment because government policy change can support investment condition, for examples, simplification of licensing, procedures in capital investment, easiness in goods flow, reduction of import duty, and simplification of import regulation.

RECOMMENDATION

Government role in supporting investment is important, mainly in sufficient infrastructure development (roads, electricity and harbor),

reformation of institution, and regulation of in investment. Moreover, to synergizing policy is also essential since inaction of policy implementation is a root cause of lack of investment.

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